

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

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| Applicant's or agent's file reference 7826513/AJC | FOR FURTHER ACTION | see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below. |
| International application No. PCT/AU03/00660 | International filing date (<i>day/month/year</i>) 30 May 2003 | (Earliest) Priority Date (<i>day/month/year</i>) 31 May 2002 |
| Applicant APOLLO LIFE SCIENCES PTY LIMITED et al | | |

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 6 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☒ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (See Box II).

4. With regard to the title, ☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows: Electrofusion of cells and apparatus therefore.

5. With regard to the abstract, ☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

- ☐ as suggested by the applicant. ☐ None of the figures
- ☐ because the applicant failed to suggest a figure
- ☒ 2 because this figure better characterizes the invention

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Box I Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos : 48-50 (in part)
because they relate to subject matter not required to be searched by this Authority, namely:
The identified claims are directed to computer programs (see Rule 39(vi)).
2. ☐ Claims Nos :
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos :
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

Box II Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

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| A. CLASSIFICATION OF SUBJECT MATTER | | | | | | | | | | | | |
|--|--|---|--|---|---|--|---|--|--|---|--|--|
| Int. Cl. ⁷ : C12M 1/42; C12N 5/12, 5/16, 5/28, 13/00; A61K 48/00, 35/54 | | | | | | | | | | | | |
| According to International Patent Classification (IPC) or to both national classification and IPC | | | | | | | | | | | | |
| B. FIELDS SEARCHED | | | | | | | | | | | | |
| Minimum documentation searched (classification system followed by classification symbols) | | | | | | | | | | | | |
| Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched | | | | | | | | | | | | |
| Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Medline, Chemical Abstracts, WPAT: Stem cell, pluripotent, progenitor, hybrid, hybridoma, fused, fusate, fusion, viral, chemical, electrofusion, dielectrophoresis | | | | | | | | | | | | |
| C. DOCUMENTS CONSIDERED TO BE RELEVANT | | | | | | | | | | | | |
| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. | | | | | | | | | | |
| X | Scott-Taylor et al. Human tumour and dendritic cell hybrids generated by electrofusion: potential for cancer vaccines. Biochimica et Biophysica Acta 1500 (2000) 265-279. See the whole document, particularly the abstract and section 2.2 starting on page 267 - section 3.6. | 1-5, 8-24, 27-43, 45-71 | | | | | | | | | | |
| X | Krivokharchenko et al. In vitro formation of tetraploid rat blastocysts after fusion of two-cell embryos. Molecular Reproduction and Development 61:460-465 (2002). See the whole document, particularly the abstract and fusion of two-cell rat embryos on page 461. | 1-5, 8-24, 27-43, 45-71 | | | | | | | | | | |
| X | Iwasaki et al. Production of live calves derived from embryonic stem-like cells aggregated with tetraploid embryos. Biology of Reproduction 62, 470-475 (2000). See the whole document, particularly the abstract, and production of tetraploid embryos on page 471. | 1-5, 8-24, 27-43, 45-71 | | | | | | | | | | |
| <input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex | | | | | | | | | | | | |
| <p>* Special categories of cited documents:</p> <table border="0"> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"B" earlier application or patent but published on or after the international filing date</td> <td>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td>"&" document member of the same patent family</td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table> | | | "A" document defining the general state of the art which is not considered to be of particular relevance | "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention | "B" earlier application or patent but published on or after the international filing date | "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone | "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) | "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art | "O" document referring to an oral disclosure, use, exhibition or other means | "&" document member of the same patent family | "P" document published prior to the international filing date but later than the priority date claimed | |
| "A" document defining the general state of the art which is not considered to be of particular relevance | "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention | | | | | | | | | | | |
| "B" earlier application or patent but published on or after the international filing date | "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone | | | | | | | | | | | |
| "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) | "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art | | | | | | | | | | | |
| "O" document referring to an oral disclosure, use, exhibition or other means | "&" document member of the same patent family | | | | | | | | | | | |
| "P" document published prior to the international filing date but later than the priority date claimed | | | | | | | | | | | | |
| Date of the actual completion of the international search 28 July 2003 | | Date of mailing of the international search report 04 AUG 2003 | | | | | | | | | | |
| Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929 | | Authorized officer G.J. MCNEICE Telephone No : (02) 6283 2055 | | | | | | | | | | |

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|---|-------------------------|
| X | US 5589047 A (Coster et al.) 31 December 1996 See the whole document, particularly column 7 line 49 - column 16 line 4, claims 17-24. | 1-5, 8-24, 27-43, 45-71 |
| X | EP 0338667 A1 (Follet et al.) 25 October 1989 See the whole document. | 1-5, 8-24, 27-43, 45-71 |
| X | WO 89/03426 A2 (Baylor College of Medicine) 20 April 1989 See the whole document, particularly the abstract, page 5 line 23 - page 8 line 24, page 13 line 29 - page 15 line 5, and examples IV and V. | 1-5, 8-24, 27-43, 45-71 |
| X | WO 98/56893 A1 (Walters et al.) 17 December 1998 See the whole document, particularly the abstract, page 20 line 26 - page 32 line 30, and figures 32-36. | 1-71 |
| X | WO 01/09297 A1 (A+ Science Invest) 8 February 2001 See the whole document, particularly the abstract, page 15 line 21 - page 16 line 14, Example 1, and figures 1-5. | 1-5, 8-24, 27-43, 45-71 |
| X | WO 02/10346 A2 (University of Ulster) 7 February 2002 See the whole document, particularly page 4 line 4 - page 8 line 3, page 22 line 16 - page 24 line 31. | 1-5, 8-24, 27-43, 45-71 |
| X | WO 02/32378 A2 (Ohno) 25 April 2002 See the whole document, particularly the abstract, page 5 line 2 - page 8 line 5, page 28 lines 7-24. | 1-5, 8-24, 27-43, 45-71 |

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Information on patent family members

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This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

| Patent Document Cited in Search Report | | Patent Family Member | |
|---|-----------|----------------------|------------|
| US | 5589047 | AU | 25620/92 |
| | | BR | 9206463 |
| | | EP | 607178 |
| | | MX | 9205086 |
| | | NZ | 244216 |
| | | WO | 9305166 |
| EP | 338667 | JP | 2009365 |
| | | US | 4959321 |
| WO | 8903426 | CA | 1340200 |
| | | EP | 386086 |
| | | US | 4822470 |
| | | US | 4970154 |
| | | US | 5304486 |
| WO | 9856893 | CN | 1234069 |
| | | EP | 968275 |
| | | US | 6117660 |
| WO | 200109297 | AU | 200061951 |
| | | CA | 2380379 |
| | | EP | 1200569 |
| WO | 200210346 | AU | 200175752 |
| | | CA | 2418072 |
| | | EP | 1305410 |
| WO | 200232378 | AU | 200225990 |
| | | US | 2002168351 |
| END OF ANNEX | | | |